

Sonneborn®

Concrete Repair Systems



SONOCRETE®

SONOPATCH® 300

Two-component cementitious mortar for horizontal repairs

Features

- Rapid strength gain...
- Develops tenacious bond...
- High compressive strength...
- Easy to mix and apply...
- Extended working time...

Benefits

- Reduces downtime
- Durable repairs
- Stands up to traffic
- Labor saving
- Ideal for warm weather

Where to Use

Sonopatch® 300

- Structurally deteriorated concrete surfaces
- Surface defects
- Above or below grade
- Interior or exterior

How to Apply Sonopatch® 300

Surface Preparation

- 1** Surfaces must be clean, sound, free of laitance, standing water, dust, grease, and other surface contaminants.
- 2** Remove all loose materials by hand or mechanically with a chipping hammer, chisel, scabblor, sandblast, waterblast, or similar methods.
- 3** Any exposed steel reinforcement must be cleaned to a white metal finish and primed with an anti-corrosive coating. See Sonoprep™ data guide.
- 4** For proper adhesion, concrete must have a fractured aggregate profile.
- 5** Repair areas should have saw cut straight edges with a minimum depth of 1/8" (3.0 mm) (avoid featheredging).

Mixing

- 1** Precondition Sonopatch® to 70°F ± 5° (21°C ± 3°) before mixing.
- 2** For best results, mechanically mix at slow speed with a 3/4" drill and mixing paddle.

3 Add most (all but 1 to 2 cups) of the 3/4 gallon (2.84 L) of Part A liquid into a clean mixing container. Add 43 lb. (19.5 kg) unit of Part B powder by gradually sifting the material while mixing at a slow speed with a 3/4" drill and mixing paddle. Mix until thoroughly blended. Add remaining Part A liquid to achieve the desired placement consistency. Continue mixing for approximately 2 minutes to ensure a uniform lump-free consistency.

4 Placement time is 20 minutes at 70°F (21°C) and 50% relative humidity.

5 If projects require larger quantities, multiple units may be mixed in a mortar mixer as follows
(a) predampen mortar mixer
(b) remove any excess water **(c)** add 3/4 gallon (2.84 L) unit (1 jug) of Part A per 43 lb. (19.5 kg) unit of Part B **(d)** mix for approximately 2 minutes to ensure a lump-free uniform consistency.

Application

- 1** Dampen the surface with clean water; it must be saturated surface dry (SSD) with no standing, ponding, or puddling water.
- 2** Apply a small quantity of the mixed Sonopatch® 300 to the substrate. Thoroughly scrub, key in, and work the material throughout the cavity to promote bond.
- 3** Place the mortar into the damp scrub coat. Key in and compact thoroughly to secure bond.
- 4** Trowel the material to the desired finish after initial set.
- 5** The maximum single lift recommended is 3/4" (19.05 mm) in depth. For applications greater than 3/4", Sonopatch® 300 must be extended with up to 43 lbs. (19.5 kg) of suitable aggregate per kit. To add additional aggregate, first mix the Sonopatch® 300 according to directions. While continuing to mix, add the maximum amount of washed, graded, SSD, low-absorption, high-density aggregate that will allow for proper consolidation of the repair material. Adjust mixture to the same consistency it

had before the aggregates were added by adding small quantities of Part A or Part B. If successive lifts are installed, each lift should be scored and allowed to reach initial set before the next layer is applied.

Curing

Curing is mandatory for all repairs. Either damp curing for at least 3 days or proper application of an appropriate Sonneborn curing compound is required. Extra care should be taken to retain moisture for application to thin sections and in direct sunlight, hot weather, and wind.

Clean Up

Clean all tools and equipment immediately with water. Cured material can be removed by mechanical means only.

For Best Performance

- Sonopatch® 300 is recommended for concrete repairs only.
- Do not bridge moving cracks or joints.
- DO NOT apply below 40°F (4°C) or above 90°F (32°C).
- Do not exceed liquid requirements.
- Failure to follow good trade practices may result in decreased material performance.
- Protect from freezing before cure (24 hours).
- Featheredging may result in reduced performance.
- Aggregate-extension applications should be in accordance with ACI concrete guidelines.
- For large repair areas with no control, expansion, or construction joints, consult ACI guidelines.
- Bonding agents such as EpoGrip™ or Sonoprep™ are strongly recommended for large areas (such as overlays).
- Protect liquid Part A from freezing; if frozen, discard.
- Do not add any admixtures.
- Make certain the most current version of this data guide is being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Do not exceed a length to width ratio of 2 to 1 for the repair area.
- Proper application is the responsibility of the user. Field visits by ChemRex® personnel are for the purpose of making technical recommendations only, and are not to supervise or provide quality control on the job site.

Technical Data

Test Data

Typical Properties	
Working time at 70°F (21°C), minutes	20
Compressive Strength, psi ASTM C 109 *modified	
1 Day	3,000
28 Days	8,500
* 50% relative humidity	
Modulus of Elasticity, psi ASTM C 215	
Result	2.96 x 10 ⁶
Splitting Tensile Strength, psi ASTM C 496 (50% relative humidity)	
1 Day	400
28 Days	1,000
Flexural Strength, psi ASTM C 348 *modified	
1 Day	800
28 Days	2,000
* 50% relative humidity	

Bond Strength, psi ASTM C 882 *modified	
1 Day	1,200
28 Days	2,500
* Mortar scrubbed into substrate	
Chloride Permeability, in coulombs AASHTO-T-277 (According to ASTM C 1202-91, Table 1)	
Result	Very low range
Length Change, % Expansion ASTM C 157 (wet cure)	
1 day	0.005
28 days	0.032
Linear Coefficient of Thermal Expansion, inches/inch/°F ASTM C 531	
Result	2.5 x 10 ⁻⁶

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

Order Information

Packaging

Sonopatch® 300

- Part A: 1 gallon plastic jug containing 3/4 gallon (2.84L) liquid
- Part B: 43 lb. (19.5 kg) bag powder

Shelf life is typically one year if stored in unopened containers under normal conditions.

Protect liquid from freezing; do not store below 35°F (1.7°C).

Color

Concrete gray

Coverage

- 43 lb. (19.5 kg) bag yields 0.4 cubic ft. (0.011 m³). When extended with 43 lbs. coarse aggregate, yields 0.60 cubic ft. (0.017 m³)

Caution

Sonopatch® 300 contains Portland cement, silicon dioxide (quartz), calcium oxide, calcium aluminates, calcium sulfate dihydrate

Risks

Product is alkaline on contact with water and may cause injury to skin or eyes. Ingestion or inhalation of dust may cause irritation. Contains a small amount of free respirable quartz which has been listed as a suspected human carcinogen by NTP and IARC. Repeated or prolonged overexposure to free respirable quartz may cause silicosis or other serious and delayed lung injury.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Prevent contact with skin and eyes. Prevent inhalation of dust. Wash thoroughly after handling. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

VOC Content

Part A- 0 g/L or 0 lbs/gal

Proposition 65

This product contains material listed by the state of California as known to cause cancer, birth defects, or other reproductive harm.

For medical emergencies only, call ChemTrec (1/800/424-9300)

Limited Warranty Notice

Every reasonable effort is made to apply ChemRex® exacting standards both in the manufacture of our products and in the information which we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, CHEMREX® MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and CHEMREX® shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the ChemRex® Technical Manager.



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ChemRex®

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